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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DANIEL CROSSON

Appeal 2009-1222
Application 09/819,911
Technology Center 2600

Decided:[1] April 23, 2009

Before ROBERT E. NAPPI, KARL D. EASTHOM,
and ELENI MANTIS MERCADER *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1] The two month time period for filing an appeal or commencing a civil action, as recited in 37 CFR § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from the Final Rejection of claims 1-53. (Br. 4).[2] We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

Appellant's invention is directed to an internet protocol (IP) address selection. Appellant's system assigns a single domain name to a set of server IP addresses. Upon receipt of a request for the domain name from a client IP address, the system selects, from a set of routes linking the IP server and client addresses, a route which meets predetermined criteria. (Spec. Abstract; Fig. 1).

Claim 1, exemplary of the claims on appeal, follows:

1. A method for internet protocol (IP) address selection, comprising the steps of:

assigning a single domain name to a set of server IP addresses corresponding to plural servers;

receiving a request for the domain name from a client IP address;

retrieving a set of IP routes linking the server IP addresses, and the client IP address; and

selecting an IP route from the set of routes which meets predetermined criteria.

[2] The Appeal Brief (filed Oct. 26, 2007) ("Br") and Examiner's Answer (filed Mar. 5, 2008) ("Ans.") are referenced in this opinion.

The Examiner relies on the following prior art references:

Dynarski	US 6,272,129 B1	Aug. 7, 2001 (filed Jan. 19, 1999)
Lamberton	US 6,779,017 B1	Aug. 17, 2004 (filed Dec. 29, 1999)

Claims 1-53 stand rejected as obvious under 35 U.S.C. § 103 based on Lamberton and Dynarski.

PRINCIPLES OF LAW

"[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Under § 103, a holding of obviousness can be based on a showing that "there was an apparent reason to combine the known elements in the fashion claimed." *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-41 (2007). Such a showing requires:

> "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" . . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

Id., 127 S. Ct. at 1741 (*quoting Kahn*, 441 F.3d at 988 (Fed. Cir. 2006)).

If the Examiner makes such a showing, the burden then shifts to Appellant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and

the relative persuasiveness of the arguments. *In re Oetiker*, 977 F.2d at 1445.

OPINION

Claims 1-3, 5, 11, 12, 14-16, 18, 24-27, 29-32, 40-43, and 51-53

Issue

Appellant argues (Br. 6, 7) with respect to the above claims that the references do not teach retrieving a set of IP routes linking the server IP addresses and the client IP address as set forth in representative claim 1.[3] The issue with respect to claim 1 is: Did the Appellant show that the Examiner erred in finding that Lamberton teaches retrieving a set of IP routes linking the server IP addresses and the client IP address as set forth in representative claim 1?

Findings of Fact (FF)

1. Lamberton discloses as a background prior art system, a load balancer wherein multiple servers share the same domain name (DNS – Domain Name System). A load balancer at the DNS routes clients' requests to a designated server. (Lamberton, col. 4, l. 64 to col. 5, l. 27; Fig. 1).

2. In the system described above, the load balancer decides, based upon the respective work loads of each server, which server is best able to handle a client's request (Lamberton, col. 5, ll. 4-8). Lamberton also discloses generally choosing the best server "according to certain dynamically set weights" (col. 2, ll. 39-42).

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[3] Appellant groups these claims together and presents arguments with respect to claim 1. Under 37 C.F.R. § 41.37(c) (1) (vii), we select claim 1 as representative of the group.

3. Lamberton discloses that load balancers as described above typically automatically choose, for a certain period of time, a server already connected to an IP client currently communicating with one of the servers, even if other servers are not as busy as the connected server. The system keeps track of the client IP address and sends requests from that address to the same server within a cluster of servers, even if the other servers are less busy. Therefore, ongoing communications/transactions continue between a client and previously designated server. (Lamberton, col. 3, ll. 11-44; col. 5, l. 28 to col. 6, l. 5).

4. Lamberton generally discloses keeping track of client server access via a system memory or disk (col. 3, ll. 5-10). Lamberton also discloses "caching" of traffic data at servers to obtain better system performance (col. 3, ll. 20-27).

Analysis

Appellant's argument (Br. 5) that Lamberton fails to teach "*retrieving a set of IP routes* linking the sever IP addresses and the client IP address" turns on what is meant by "retrieving" (emphasis added). Appellant does not argue that the claim requires retrieving the set from a database. Appellant does not state what constitutes "retrieving." Appellant merely denies that Lamberton's system performs "retrieving." Such a mere denial does not meet Appellant's burden on appeal. "The problem in this case is that the appellants failed to make their intended meaning explicitly clear." *In re Morris*, 127 F.3d 1048, 1056 (Fed. Cir. 1997). "It is the applicant's burden to precisely define the invention, not the PTO's." *Id.*

Appellant acknowledges (Br. 6) that Lamberton's system "selects one of the servers of the cluster to use for processing the client request." Prior to

the acknowledged selection, Lamberton's load balancer first determines which server has the least workload (FF 1-3). Such a determination involves retrieval of a set of IP routes, because Lamberton's disclosure implies that the load balancer must query each server in the clustered set of servers connected to the load balancer which is connected to the client. At the end of the queries, prior to determining which server is currently carrying the least workload, the system has "retrieved" a set of servers for possible connection to the client IP address.

Thus, at a minimum, Lamberton's determination suggests a set of clustered servers linked to the client, thereby meeting the disputed claim limitation.[4] Although claim 1 requires no physical link to each server, Lamberton's clustered servers are linked to a client IP address through the load balancer for possible connection. Lamberton's system also implies or suggests that to perform load balancing of servers, the load balancer has a system memory of the "weights" for decision making, for tracking the client IP address, and for accessing specific servers in the cluster (*see* FF 1-4). Accessing such a memory to perform load balancing also constitutes retrieving.

Contrary to Appellant's related assertion (Br. 7-9) that Lamberton's prior art load balancing systems described above (*see* FF 1-3) do not employ predetermined criteria, Lamberton's prior art systems select a connected server having the least workload, as discussed above. Such a selection,

[4] It is noted that claim 10, reciting "selecting the IP route from the set equal to a default IP address," indicates that a "set" does not preclude merely one server and one client. Therefore, under alternative reasoning, connecting the client IP address to one server constitutes retrieval of a set – as Lamberton discloses.

based on the criteria of being 1) grouped in the cluster and 2) least busy, constitutes "selecting an IP route from the set of routes which meets predetermined criteria" as set forth in claim 1. Lamberton also generally discloses other criteria employed by the prior art systems; i.e., the systems choose a server "according to certain dynamically set weights" (FF 3).

Therefore, Appellant has failed to establish that the Examiner erred in finding (Ans. 3, 4) that Lamberton teaches the disputed elements of claim 1. Accordingly, we will sustain the Examiner's rejection of claim 1, and claims 2-3, 5, 11, 12, 14-16, 18, 24-27, 29-32, 40-43, and 51-53 which were not separately argued and fall with claim 1.

Conclusion

Appellant has not demonstrated that the Examiner erred in finding that Lamberton teaches retrieving a set of IP routes linking the server IP addresses and the client IP address as set forth in representative claim 1.

Claims 4, 6, 7, 17, 19, 20, 36-38, 45, 47, and 50

Issue

The issue with respect to claims 4, 6, 7, 17, 19, 20, 36-38, 45, 47, and 50 is: Did Appellant demonstrate that the Examiner erred in finding that Lamberton teaches or suggests retrieving the set of IP routes using a BGP and Telnet protocol as respectively set forth in claims 4 and 6, and selecting the IP route from the set which has a shortest AS path as set forth in claim 7?[5]

[5] Appellant groups these claims together and presents arguments directed toward claims 4, 6, and 7. Claims 4 and 6 recite "retrieving the set of IP routes" using respectively, a BGP protocol and a Telnet protocol. The

Findings of Fact (FF)

5. Lamberton discloses an IP protocol (col. 2, l. 38) and a TCP protocol (Transport Control Protocol) (col. 3, ll. 27-30).

6. Appellant states that the disclosed system may transmit selected IP routes using selected BGP, SNMP or Telnet protocols. BGP code in server software allows the server to peer with routers. (Spec. 3: 9-12; 9: 5-6). Appellant refers to the AS path as "a BGP protocol attribute containing a sequence of autonomous system numbers which a route has traversed to reach a destination." (Spec. 11: 7-9).

Analysis

In response to Appellant's argument (Br. 10) that Lamberton's gateway or firewall does not inherently teach the BGP or Telnet protocol and shortest AS path, the Examiner asserts (Ans. 11): "It is well-known in the art. That a gateway or BGP, router provides the shortest path."

Appellant does not dispute the finding that such named protocols are well known. Lamberton discloses different protocols (FF 5) reasonably suggesting a mere substitution of a different protocol. Appellant has not presented evidence to show that replacing Lamberton's disclosed protocols with such known protocols would have been "uniquely challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 127 S. Ct. at 1740-41).

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remaining claims, except claims 7 and 20, recite similar limitations. Thus, claim 4 represents claims 6, 17, 19, 36-38, 45, 47, and 50. Claim 7 represents claim 20 as each recite selecting the IP route from the set which has the shortest AS path.

Further, Appellant's Specification also indicates that the system operates similarly with respect to both the BGP and Telnet protocols (*see* FF6). On one hand, different protocols imply that a system responds differently to each protocol. On the other hand, regardless of the protocol employed, Appellant's system produces no claimed difference as a result of using a different protocol. As such, the mere use of named protocols recited in claims 4 and 6, without a recitation of a claimed response based on a distinction between the different protocols, renders the protocols non-functional descriptive material.[6]

Such is not the case with respect to the shortest path recited in claim 7. The shortest path implies a physical distinction. The Examiner provides no evidence for the assertion, noted *supra*, that Lamberton's gateway either necessarily employs or suggests the shortest path.

Therefore, Appellant has established that the Examiner erred in finding (Ans. 3, 4) that Lamberton teaches the disputed elements of representative claim 7, but not those of claims 4 and 6. Accordingly, we will sustain the Examiner's rejection of claims 4 and 6, and also claims 17, 19, 36-38, 45, 47, and 50, which Appellant did not argue separately and which contain similar limitations to those in claims 4 and 6. We will not sustain the Examiner's rejection of claim 7 nor of similar claim 20.

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[6] *In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *Ex parte Curry*, 84 USPQ2d 1272, 1275 (BPAI 2005) (Informative Opinion) (Affirmed, Rule 36, Fed. Cir., slip op. 06-1003, June 2006) ("Common situations involving non-functional descriptive material [include] . . . .a computer that differs from the prior art solely with respect to nonfunctional descriptive material that cannot alter how the machine functions (i.e., the descriptive material does not reconfigure the computer) . . . .").

Conclusion

Appellant did not demonstrate that the Examiner erred in finding (Ans. 4, 5) that Lamberton suggests retrieving the set of IP routes using a BGP protocol as set forth in claim 4, and selecting the IP route from the set which has a shortest AS path as set forth in claim 7.

Claims 8, 9, 21, and 22

Issue

Appellant argues (Br. 10, 11) with respect to these claims that the Examiner erred in finding that selecting Lamberton's least busy server meets selecting an IP route which has the lowest origin type as set forth in claims 8 and 21, and which has the lowest MED as set forth in claims 9 and 22. The issue is: Did Appellant demonstrate that the Examiner erred in finding that selecting Lamberton's least busy server constitutes selecting, from a set of routes, an IP route which has the lowest origin type as set forth in claims 8 and 21, and which has the lowest MED as set forth in claims 9 and 22?

Finding of Fact (FF)

7. Appellant states that the disclosed system may transmit selected IP routes using a selected MED. According to Appellant, a MED is a BGP protocol attribute that describes an external metric of a route. Appellant also discloses that the origin type is a BFP protocol attribute indicating an origin of a routing update with respect to an autonomous system that originated it. The system selects the lowest origin type or lowest MED type. (Spec. 11: 9-17).

Analysis

Because the lowest MED is an attribute that describes an external metric of a route (FF 7), the Examiner's finding (Ans. 12) that a least busy server describes an external metric of a route is reasonable. That is, least busy constitutes an external metric of the route because it is a gauge of the relative traffic on the route. The claim does not require, nor does Appellant argue, that a MED necessarily invokes a specific protocol requiring a response tied to that protocol. As such, least busy constitutes the lowest MED – the lowest external busy metric. Thus, Appellant has not demonstrated that the Examiner erred with respect to claims 9 and 22.

On the other hand, it is not apparent how Lamberton's least busy server corresponds to the lowest origin type. According to Appellant, the origin type is related to an origination of a route (FF 7). The Examiner has not explained how a least busy selection is related to an origination based selection (*see* Ans. 5). Therefore, the Examiner's response falls short of "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" as required by *KSR*, 127 S. Ct. at 1741 (*quoting Kahn*, 441 F.3d at 988). Accordingly, Appellant has established that the Examiner erred in with respect to claims 8 and 21.

Conclusion

Appellant did not demonstrate that the Examiner erred in finding that Lamberton's least busy server constitutes selecting, from a set of routes, an IP route which has lowest MED, as set forth in claims 9 and 22. Appellant did demonstrate that the Examiner erred in finding that Lamberton's least busy server constitutes selecting, from a set of routes, an IP route having the lowest origin type as set forth in claims 8 and 21.

Claims 10 and 23

Issue

Appellant argues (Br. 11) with respect to claims 10 and 23 that the Examiner erred in finding that Lamberton discloses selecting a default IP address. The issue is: Did Appellant demonstrate that the Examiner erred in finding that Lamberton discloses selecting the IP route from the set equal to a default IP address as set forth in claims 10 and 23?

Analysis

The Examiner found (Ans. 5, citing Lamberton, col. 6, ll. 6-15) that Lamberton teaches a default. Lamberton discloses a load balancer system that automatically chooses a server already connected to an IP client currently communicating with one of the servers, even if other servers are not as busy (FF 3). Such an automatic selection of an existing IP route, in lieu of selecting a less busy server, reasonably constitutes a default selection. As such, Appellant has not demonstrated that the Examiner erred with respect to claims 9 and 22.

Conclusion

Appellant did not demonstrate that the Examiner erred in finding that Lamberton discloses selecting the IP route from the set equal to a default IP address as set forth in claims 10 and 23.

Claims 13 and 28

Issue

Appellant argues (Br. 11, 12) with respect to claims 13 and 28 that the Examiner erred in finding that Dynarski teaches an enhanced address resource record that includes the data elements of claim 13. The issue is:

Did the Appellant show that the Examiner erred in finding that Dynarski teaches an enhanced resource record as recited in claims 13 and 28?

Findings of Fact (FF)

8. Dynarski teaches storing, in a buffer, the status of different communication states associated with a wireless connection: Idle, Active, and Dormant (col. 12, l. 55 to col. 13, l.3).

9. Dynarski teaches that a home agent typically stores a mobility binding record indicating whether a device, including a laptop 14 or 16, has communicated, or has the authority to communicate, over a wireless system (col. 6, ll. 61-65; Fig. 1).

10. An authentication server 28 stores attributes in a memory table that maps a destination IP address found in an IP packet, destined for a mobile wireless device 14, with information uniquely identifying the device. Such information includes the IMSI and/or the ESN number assigned to the device. Vendor-specific information indicating which network to use to find the mobile device is also stored in the server 28. (Dynarski, col. 5, ll. 45-61).

Analysis

As Appellant acknowledges (Br. 11-12), the Examiner found that Dynarksi teaches storing certain data elements in a resource record. Appellant challenges the finding as it pertains to the particular stored types of data elements recited in claims 13 and 28. Therefore, it is undisputed that Dynarski reasonably teaches storing certain data elements to facilitate connections to wireless devices (FF 8-10). Whether the specific data elements recited in the claims are taught by Dynarski, however, is not material, because the type of data element constitutes non-functional

descriptive material.[7] The claims do not require a different operation based on the different types of data elements. Lamberton also teaches storing data records (FF 4). As such, Appellant has not demonstrated that the Examiner erred with respect to claims 13 and 28.

Conclusion

Appellant did not demonstrate that the Examiner erred in finding that Dynarski teaches an enhanced resource record as recited in claims 13 and 28.

Claims 33 and 34

Issue

Appellant argues (Br. 12, 13) that Lamberton does not disclose checking a database in a cache to find an IP route entry containing an IP route previously indicated as being a best IP route. The issue is: Did the Appellant show that the Examiner erred in finding that Lamberton and Dynarski fail to collectively teach "checking a database in a cache to find an IP route entry containing an IP route previously indicated as being a best IP route" as recited in claim 33?[8]

Analysis

Appellant argues (Br. 13) that "[s]electing the least busy of the servers has nothing to do with checking a database in a cache in the manner recited in claim 33." The Examiner found (Ans. 13) that Lamberton's load balancer "decides which server is best to accept requests [Lamberton, col. 5

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[7] *See* n.6 *supra*.

[8] Appellant groups these claims together and presents arguments with respect to claim 33. Claim 34 depends from claim 33. Under 37 C.F.R. § 41.37(c) (1) (vii), claim 34 stands or falls with claim 33.

line 6]." Lamberton also teaches defaulting to the previously selected IP route for ongoing communications (FF 3). Such a previously selected route is the one that the system selected because it was the least busy – i.e., the best. (*See* FF 1-3).

Appellant does not define a cache. Lamberton requires, or at a minimum suggests, a memory to keep track of, and maintain, the current IP route of an on-going communication link (*see* FF 3). Lamberton also discloses "caching" and/or memory storing to enhance traffic communications (FF 4). Further, as discussed above, Dynarski reasonably teaches that storing certain data elements facilitates better performance and connection for wireless communications (FF 7-9). A cache appears to reasonably constitute memory storage (*see* FF 4). As such, Lamberton (with or without Dynarski) reasonably suggests checking a cache for a previously determined best route. Therefore, Appellant has not demonstrated that the Examiner erred with respect to claims 33 and 34.

Conclusion

Appellant did not demonstrate that the Examiner erred in finding that Lamberton and Dynarski fail to collectively teach an enhanced resource record as recited in claim 33.

Claims 35, 39, 44, 46, 48, and 49

Issue

Appellant argues *inter alia* (Br. 13) that Lamberton does not disclose accessing a field in a record, the field to indicate one of plural techniques for downloading IP routes from routers to the DNS servers. The issue is: Did Appellant show that the Examiner erred in finding that Lamberton discloses

accessing a field in a record, the field to indicate one of plural techniques for downloading IP routes from routers to the DNS servers, as set forth in the claims?

Analysis

Appellant argues (Br. 13) that the Examiner's cited passage of Lamberton, which refers to applications which Web users can access, lacks "any hint of accessing a field in a record to indicate one of plural techniques for downloading IP routes from routers to the DNS servers" as required by claims 35, 39, 44, 46, 48 and 49. In response, the Examiner states (Ans. 13) that the prior art teaches "'searching [a] database to determine if a session already exists' [Dynarski, col 15 lines 52-54]. It's clearly the database search provides the records of session or the set of IP route."

The Examiner does not explain how searching the records for an existing call constitutes a field indicating one of plural techniques for downloading IP routes as set forth in claims 35, 39, 44, 46, 48 and 49. Nor does the Examiner present any rationale as to how the combination of Lamberton or Dynarski would teach the recited subject matter in issue. (The claims also recite a functional relationship based on the technique). Therefore, Appellant reasonably met the burden of asserting error in the Examiner's position. *See Kahn,* 441 F.3d at 985-86. As such, Appellant has demonstrated that the Examiner erred with respect to claims 35, 39, 44, 46, 48 and 49.

Conclusion

Appellant has shown that the Examiner erred in finding that Lamberton teaches accessing a field in a record, the field to indicate one of

plural techniques for downloading IP routes from routers to the DNS servers, as set forth in claim 35.

DECISION

We affirm the Examiner's decision rejecting claims 1-6, 9-19, 22-34, 36-38, 40-43, 45, 47, and 50-53. We reverse the Examiner's decision rejecting claims 7, 8, 20-21, 35, 39, and 44, 46, 48, and 49.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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